CLAIMS:

We Claim:

1. A novel automatic background color change assembly for a monochrome LCD comprising:

a white light emitting backlight device, serving as source of light for a monochrome LCD;

a dichroic cell serving as a voltage dependent color absorption medium;

a liquid crystal monochrome display that displays information with a background color supplied by the said dichroic cell;

said dichroic cell receiving the light from the said white backlight device;

said white backlight device over which is assembled the said 'dichroic' cell over which is assembled the said monochrome LCD to be in alignment;

said 'dichroic' cell applied with programmed voltages that relates to the information being displayed on LCD screen;

said monochrome LCD exhibiting the background color as supplied by the said dichroic cell;

means for externally connecting the said LCD, the said dichroic cell and the said backlight device to their source voltages.

2. An automatic background color change assembly as claimed in claim 1 wherein the said monochrome LCD is removed and the resulting assembly is used as color changeable backlight assembly.
3. An automatic background color change assembly as claimed in claim 1 wherein the said dichroic cell is replaced with Electrically Controlled Birefringence liquid crystal cell.
4. An automatic background color change assembly as claimed in claim 1 wherein the said liquid crystal display is replaced with an Electro-phoretic cell.
5. An automatic background color change assembly as claimed in claim 1 wherein the number of said dichroic cell is more than one.

6. An automatic background color change assembly as claimed in claim 1 wherein the assembly is used in cell phones for changing the background color of LCD depending on the source of information and nature of information.
7. An automatic background color change assembly as claimed in claim 1 wherein the said backlight device emits bands of wavelengths between 400 nm and 700 nm.
8. An automatic background color change assembly as claimed in claim 1 wherein the said monochrome LCD, the said dichroic cell and the said backlight device are intimately placed in contact with each other in a flat panel display system.
9. An automatic background color change assembly as claimed in claim 1, wherein the said dichroic cell comprises LC molecules of positive dielectric anisotrpy.
10. An automatic background color change assembly as claimed in claim 1, wherein the said dichroic cell comprises LC molecules of negative dielectric anisotrpy.
11. An automatic background color change assembly as claimed in claim 9 wherein the said dichroic cell comprises LC molecules of positive dielectric anisotrpy and a combination of positive and negative dichroic dye molecules.
12. An automatic background color change assembly as claimed in claim 10 wherein the said dichroic cell comprises LC molecules of negative dielectric anisotrpy and a combination of positive and negative dichroic dye molecules.
13. An automatic background color change assembly as claimed in claim 9 and 10 wherein the said dye molecules in the said dichroic cell comprises concentration of dye molecules in the range of 0.1% to 30%.
14. An automatic background color change assembly as claimed in claim 13 wherein the said dichroic cell comprises dye molecules absorbing characteristic wavelengths ranging from 400 nm to 700 nm.

15. An integrated assembly of a novel automatic background color change for a monochrome LCD comprising:

a liquid crystal monochrome display having a top substrate whose inner surface is facing the inner surface of its bottom substrate;

said bottom substrate having its outer surface, serving as the inner surface and top substrate of a dichroic cell;

said dichroic cell sharing the bottom substrate of the said liquid crystal display as its top substrate;

said dichroic cell having it's inner surface of its bottom substrate facing the inner surface of its top said shared substrate;

said dichroic cell whose outer surface of its bottom substrate serving as inner surface of a backlight device;

said backlight device sharing the bottom substrate of the said dichroic cell as its top substrate;

said backlight device having its inner surface of its bottom substrate facing the inner surface of its top shared substrate;

said substrates of said liquid crystal display, said dichroic cell and said backlight device are all bonded together through a perimeter seal to form an integrated assembly;

means for externally connecting the said LCD, the said dichroic cell and the said backlight device to their source voltages.

16. An automatic background color change assembly as claimed in claims 1 through 29 and employed in end-user display systems to alert the user on emergency messages automatically switching the background color.

17. An automatic background color change assembly as claimed in claims 1 through 17 and employed in hand-held and mobile wireless phone application to distinguish the caller.